IN THE SPECIFICATION:

Page 1: Immediately beneath the title, please insert the following paragraphs:

PRIORITY CLAIM

This Application claims the benefit of United States Provisional Application No. 60/455,340 filed March 17, 2003, and also claims priority from German Patent Application No. 10242763.1 filed September 14, 2002.

FIELD OF THE INVENTION

Page 1: Immediately beneath the first paragraph, please insert the following:

BACKGROUND OF THE INVENTION

Page 2: Immediately beneath the third paragraph, please insert the following:

SUMMARY OF THE INVENTION

Page 3: delete the 2nd and 3rd paragraphs, and replace them with:

The purified and isolated polynucleotide preferably encodes a GLUT4V85M protein which has an amino acid sequence of Seq ID No. 2. The purified and isolated polynucleotide comprising a DNA sequence which codes as discussed previously for a protein GLUT4V85M, may be operationally linked to a promoter ~~promotor~~. Suitable promoters ~~promotors~~ are in particular prokaryotic or eukaryotic promoters such as, for example, the Lac-, trp-, ADH- or HXT7 promoter ~~promotor~~. The part of the polynucleotides, which codes for the protein GLUT4V85M is operationally linked to a promoter ~~promotor precisely if~~ so that a bacterial or eukaryotic organism can produce ~~produces~~, by means of said promoter ~~promotor~~ with the aid of a vector, an mRNA which can be translated into the protein GLUT4V85M. An example of such a vector is the vector p4H7GLUT4V85M (Seq ID No. 3). The protein GLUT4V85M may be expressed in yeast cells by means of said vector.

The above-described polynucleotide comprising a DNA sequence which codes for a protein GLUT4V85M is, in a preferred embodiment, suitable for replicating said polynucleotide in a yeast cell or for expressing the part of the polynucleotide, which encodes the protein GLUT4V85M, in a yeast cell in order to produce ~~to give the protein~~ GLUT 4 V85M protein. A yeast cell from *Saccharomyces cerevisiae* is particularly suitable. For replication and expression in a yeast cell, the polynucleotide comprising a DNA sequence which encodes ~~calls for a protein~~ GLUT4V85M protein is present in the form of a yeast vector. The polynucleotide region coding for the GLUT4V85M protein may be operationally linked to a yeast cell-specific promoter ~~promotor~~ such as, for example, the ADH promoter ~~promotor~~ (alcohol dehydrogenase promoter ~~promotor~~) or the HXT7 promoter ~~promotor~~ (hexose-transporter promotor). The yeast sectors are a group of vectors which were ~~was~~ developed for cloning ~~of~~ DNA in yeasts.

Page 4: delete paragraphs 1-5 and replace them with:

The invention further extends ~~furthermore relates~~ to a ~~yeast cell from~~ *Saccharomyces cerevisiae* yeast cell in which all glucose transporters are no longer functional (=hxt (-)) and which contains no functional Erg4 protein. Such a yeast cell is preferably a yeast cell deposited as *Saccharomyces cerevisiae* DSM 15187 with the DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Mascheroder Weg 1b, D-38124 Braunschweig Germany ~~16, 38124 Brunswick, Germany~~), an International Depository Authority (IDA) as established under the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure, on September 10, 2002.

The invention also extends ~~relates~~ to a yeast cell in which all glucose transporters are no longer functional and which contains no functional Fgy1 and no functional Erg4 protein. The lack of a functional ~~an~~ Erg4 protein and a functional ~~or of an~~ Fgy1 protein may be attributed in particular to an interruption of the corresponding coding genome sections or to a partial or complete removal of said coding genome sections. A particular example of a yeast cell of the present invention ~~Preference is given to using as yeast cell~~ which contains no functional glucose

transporters, no functional Fgy1 protein and no functional Erg4 protein, was ~~a yeast cell as~~ deposited with the DSMZ as *Saccharomyces cerevisiae* DSM 15184 on September 10, 2002. A yeast cell of the present invention has applications in the expression of ~~as described above is preferably used for expressing~~ a mammalian GLUT1 protein or a mammalian GLUT4 protein, particularly ~~in particular a protein~~ from rats, mice, rabbits, pigs, cattle or primates. A preferred embodiment uses a ~~the~~ yeast cell of the present invention for expressing a human GLUT4 or GLUT1 protein.

A *Saccharomyces cerevisiae* yeast cell of the present invention whose glucose transporters in their entirety and also the Erg4 protein are no longer functional may contain a polynucleotide of the present invention that encodes a ~~, which comprises a DNA sequence coding for a protein~~ GLUT4V85M protein, that is operationally linked to a yeast-cell specific promoter. Naturally, such a ~~Said~~ yeast cell of the present invention can also express the GLUT4V85M protein, and thus contain said protein.

A particular example of a yeast cell of the present invention that contains ~~yeast strain of this kind, containing~~ a polynucleotide which encodes ~~comprises a DNA sequence coding for~~ the GLUT4V85M protein and is operationally linked to a yeast-cell specific promoter, is preferably the *Saccharomyces cerevisiae* DSM 15185 yeast strain which was ~~has been~~ deposited with the DMSZ on September 10, 2002.

Furthermore, the present invention extends to a method for producing a GLUT4V85M protein. Such a method comprises the steps of: ~~A yeast cell whose glucose transporters in their entirety and also the Erg4 protein are no longer functional and which contains a polynucleotide comprising a DNA sequence which calls for a protein GLUT4V85M may be prepared, for example, by~~

a) providing a yeast cell whose glucose transporters in their entirety are no longer functional and whose ~~and also the~~ Erg4 protein is ~~are~~ no longer functional,

Page 5: delete paragraphs 2-4 and insert therefore:

An isolated and purified polynucleotide which comprises a DNA sequence that encodes ~~coding for~~ the GLUT4V85M protein is preferably contained within a vector which can be replicated in a yeast cell and in which said DNA sequence was cloned. An example of such a vector is p4H7GLUT4V85M (Seq ID No. 3).

The present invention also extends ~~relates~~ to a yeast cell whose glucose transporters in their entirety and whose proteins for Fgy1 and Erg4 are no longer functional and which contains a polynucleotide which comprises a DNA sequence coding for the GLUT4V85M protein operationally linked to a yeast-cell specific promoter. Said yeast cell can also express the GLUT4V85M protein and thus contain said protein. A yeast strain of this kind is preferably the *Saccharomyces cerevisiae* DSM 15186 deposited with the DSMZ on September 10, 2002.

Naturally, the present invention extends to a method for producing the GLUT4V85M protein with a ~~A~~ yeast cell of the present invention whose glucose transporters in their entirety and also whose ~~the proteins~~ Fgy1 and Erg4 are no longer functional, and which contains a polynucleotide comprising a DNA sequence which codes for the GLUT4V85M operationally linked to a yeast-cell specific promoter. Such a method comprises the steps of ~~protein may be prepared, for example, by~~

a) providing a yeast cell whose glucose transporters in their entirety and also the proteins Fgy1 and Erg4 are no longer functional,
b) providing an isolated and purified polynucleotide which comprises a DNA sequence coding for the GLUT4V85M protein and which can be replicated in the yeast cell,
a) transforming the yeast cell from a) with the polynucleotide from b),
b) selecting a transformed yeast cell,
c) where appropriate expressing the GLUT4V85M protein.